

AMENDMENTS TO THE CLAIMS

1-4 (Cancelled)

5. (Currently Amended) A refrigeration system comprising:

(A) a storage unit having a storage space;

(B) a purge gas generator which comprises a membrane nitrogen generator, a gas contaminant cleaning system, a heat exchanger, a cryocooler having a cold head, means for passing gas from the purge gas generator to the gas contaminant cleaning system, means for passing gas from the gas contaminant cleaning system to the heat exchanger and then from the heat exchanger to the cold head of the cryocooler, and means for passing fluid from the cold head of the cryocooler into the storage space; and

(C) means for passing gas from within the storage space to the heat exchanger and then from the heat exchanger to the gas contaminant cleaning system.

6. (Cancelled)

7. (Original) The refrigeration system of claim 5 wherein the gas contaminant cleaning system comprises an ejector.

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Original) The refrigeration system of claim 5 wherein the cryocooler is a pulse tube refrigerator comprising a pressure wave

generator, and a pulse tube containing working gas for receiving a pressure wave from the pressure wave generator.

12. (Previously Presented) The refrigeration system of claim 5 wherein the means for passing gas from the heat exchanger to the gas contaminant cleaning system communicates with means for venting gas to the atmosphere.

13. (Previously Presented) The refrigeration system of claim 5 wherein the storage space contains biological material.

14. (New) A refrigeration system comprising:

(A) a storage unit having a storage space which contains biological material;

(B) a purge gas generator, a gas contaminant cleaning system, a heat exchanger, a cryocooler having a cold head, means for passing gas from the purge gas generator to the gas contaminant cleaning system, means for passing gas from the gas contaminant cleaning system to the heat exchanger and then from the heat exchanger to the cold head of the cryocooler, and means for passing fluid from the cold head of the cryocooler into the storage space; and

(C) means for passing gas from within the storage space to the heat exchanger and then from the heat exchanger to the gas contaminant cleaning system.

15. (New) The refrigeration system of claim 14 wherein the gas contaminant cleaning system comprises an ejector.

16. (New) The refrigeration system of claim 14 wherein the purge gas generator comprises an air compressor and an air cleaning system.

17. (New) The refrigeration system of claim 14 wherein the cryocooler is a pulse tube refrigerator comprising a pressure wave generator, and a pulse tube containing working gas for receiving a pressure wave from the pressure wave generator.

18. (New) The refrigeration system of claim 14 wherein the means for passing gas from the heat exchanger to the gas contaminant cleaning system communicates with means for venting gas to the atmosphere.